

Small Signal Switching Diodes, Low Leakage Current



FEATURES

- Silicon planar diodes
- Saving space
- Hermetic sealed parts
- Fits onto SOD-323/SOT-23 footprints
- Electrical data identical with the devices BAQ33 to BAQ35, BAQ133 to BAQ135
- Very low reverse current
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

MECHANICAL DATA

Case: MicroMELF

Weight: approx. 12 mg

Cathode band color: black

Packaging codes/options:

TR3/10K per 13" reel (8 mm tape), 10K/box

TR/2.5K per 7" reel (8 mm tape), 12.5K/box

APPLICATIONS

- Protection circuits, time delay circuits, peak follower circuits, logarithmic amplifiers

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	INTERNAL CONSTRUCTION	REMARKS
BAQ333	$V_{RRM} = 40$ V	BAQ333-TR3 or BAQ333-TR	Single diode	Tape and reel
BAQ334	$V_{RRM} = 70$ V	BAQ334-TR3 or BAQ334-TR	Single diode	Tape and reel
BAQ335	$V_{RRM} = 140$ V	BAQ335-TR3 or BAQ335-TR	Single diode	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25$ °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		BAQ333	V_{RRM}	40	V
		BAQ334	V_{RRM}	70	V
		BAQ335	V_{RRM}	140	V
Reverse voltage		BAQ333	V_R	30	V
		BAQ334	V_R	60	V
		BAQ335	V_R	125	V
Peak forward surge current	$t_p = 1$ μ s		I_{FSM}	2	A
Forward continuous current			I_F	200	mA

THERMAL CHARACTERISTICS ($T_{amb} = 25$ °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	Mounted on epoxy-glass hard tissue, fig. 3 35 μ m copper clad, 0.9 mm ² copper area per electrode	R_{thJA}	500	K/W
Junction temperature		T_j	175	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^\circ C$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 100 \text{ mA}$		V_F			1	V
Reverse current	$E \leq 300 \text{ lx, rated } V_R$		I_R		1	3	nA
	$E \leq 300 \text{ lx, rated } V_R, T_j = 125^\circ C$		I_R			0.5	μA
	$E \leq 300 \text{ lx, } V_R = 15 \text{ V}$	BAQ333	I_R		0.5	1	nA
	$E \leq 300 \text{ lx, } V_R = 30 \text{ V}$	BAQ334	I_R		0.5	1	nA
	$E \leq 300 \text{ lx, } V_R = 60 \text{ V}$	BAQ335	I_R		0.5	1	nA
Breakdown voltage	$I_R = 5 \mu\text{A}, t_p/T = 0.01, t_p = 0.3 \text{ ms}$	BAQ333	$V_{(BR)}$	40			V
		BAQ334	$V_{(BR)}$	70			V
		BAQ335	$V_{(BR)}$	140			V
Diode capacitance	$V_R = 0 \text{ V, } f = 1 \text{ MHz}$		C_D			3	pF

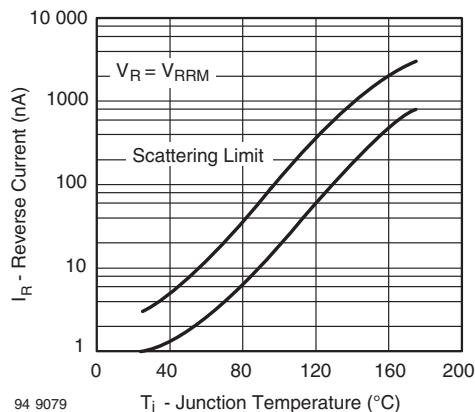
TYPICAL CHARACTERISTICS ($T_{amb} = 25^\circ C$, unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

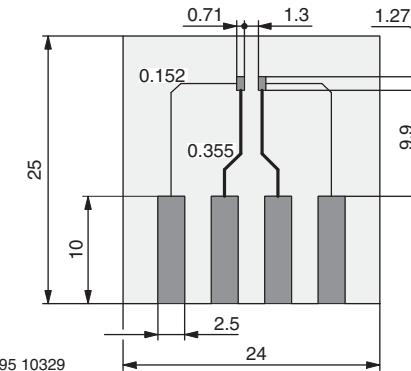
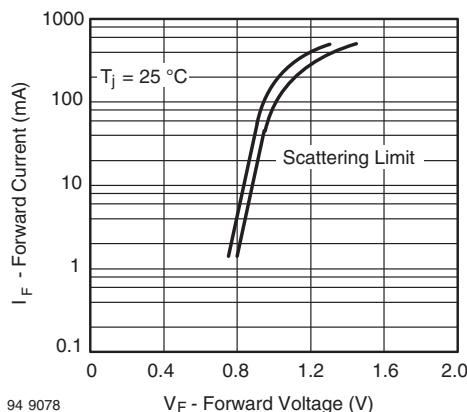
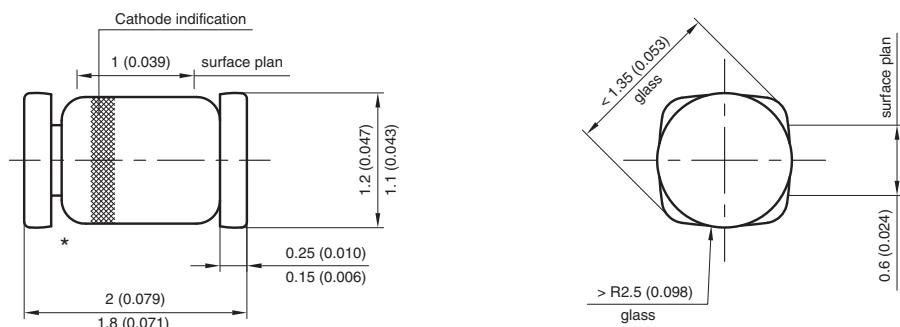
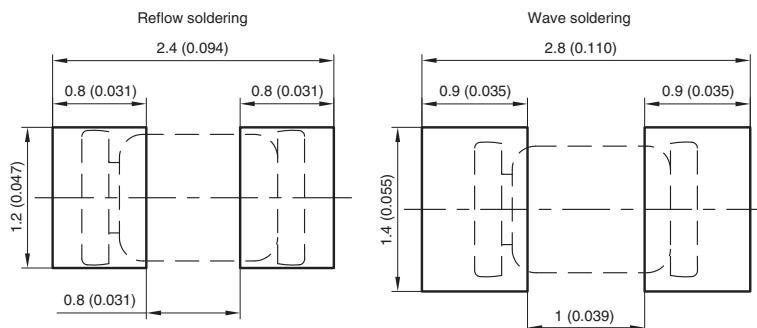

Fig. 3 - Board for R_{thJA} Definition (in mm)


Fig. 2 - Forward Current vs. Forward Voltage

PACKAGE DIMENSIONS in millimeters (inches): **MicroMELF**


* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



Created - Date: 26.July.1996
Rev. 13 - Date: 07.June.2006
Document no.: 6.560-5007.01-4
96 12072

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